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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,470	12/28/2001	Richard E. Smalley	11321-P012USD9	9933

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EXAMINER

HENDRICKSON, STUART L

ART UNIT PAPER NUMBER

1754

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

151033410

Applicant(s)

Smalley

Examiner

Nedulesa

Group Art Unit

1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 117-140, 163-213 is/are pending in the application.
- Of the above claim(s) 123-125, 188-183 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 117-122, 126-140, 163-171, 184-213 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☒ Claim(s) 117-140, 163-213 are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

This application contains claims directed to the following patentably distinct species of the claimed invention: These are listed in the claims. Applicant is required to elect a single matrix material and a single structural material.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, the claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

The diverse materials claimed constitute a tremendous burden of search due to the variety of classes and subclasses they encompass.

During a telephone conversation with Mr. Garsson on 8/2/04 a provisional election was made without traverse to prosecute the invention of 'polymer' and 'carbon', claims 117-122, 126-140, 163-177, 184-213. Affirmation of this election must be made by applicant in replying to this Office action. Claims 123-125, 178-183 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 117-120, 126, 130, 131, 133, 135, 138, 171-174, 186-189 are rejected under 35 U.S.C. 102(b) as being anticipated by Ajayan et al. SCIENCE article.

The reference teaches nanotubes in epoxy-polymer. 'carbon' encompasses nanotubes, so it fulfills both roles. In so far as the claims are interpreted (or will be amended) to require a non-nanotube carbon, then the examiner takes Official Notice that nanotubes are expected to have trace carbon impurities from their synthesis. No difference is seen in the structure or properties, as the materials are the same as claimed.

Concerning claim 130, cutting is deemed a modification. Claim 135 is met because two solid objects cannot occupy the same space at the same time.

Claims 127, 128, 130, 132, 134, 139, 140, 165, 166, 170, 184-187, 200-204 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ajayan et al. SCIENCE article.

The reference does not explicitly embody SWNTs, but these are suggested on pg. 1214 middle. Using the claimed amount, type, etc. is an obvious expedient to make a conductive composition.

Claims 121, 122, 129, 136, 137, 163, 164, 167-169, 175-177, 196-199, 205-213 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ajayan et al. as applied to claims 117-120,

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126-128, 130-135, 138-140, 165, 166, 170-174, 184-189, 200-204 above, and further in view of applicants' admissions as to the scope and content of the prior art.

Ajayan does not teach the claimed polymers, etc., however applicants admit on pgs. 62, 63 of the specification that these are old and known. Using them in the composites of Ajayan is an obvious expedient to make a polymeric composite. In any event, the examiner takes Official Notice that the claimed polymers, structural agents and other additives are old and known in the art. Using them in the polymer of Ajayan is an obvious expedient to exploit the properties of the nanotubes (Ajayan pg. 1212). Concerning the process steps (claim 203 etc.), the examiner takes Official Notice that these are old and known. Indeed, it appears that the only support applicants have for these features is in the prior-art documents they have incorporated by reference.

Claims 190-195 rejected under 35 U.S.C. 103(a) as being unpatentable over Ajayan et al. as applied to claims 117-120, 126-128, 130-135, 138-140, 165, 166, 170-174, 184-189, 200-204 above, and further in view of Stephan et al. article.

Ajayan does not teach doped nanotubes, however Stephan pg. 1684 does as conductive materials. Using them in the polymer of Ajayan is an obvious expedient to make a conductive composite.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 131, 132, 134, 195 and 204 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a) In claim 131 and 204, what is the 'precursor'? It appears this term should be stricken.
- b) In claim 195- how is BN in sidewall? It is a free-standing compound.

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c) In claim 132- 'forming' is by definition simultaneous. 134 is impossible. Is 'shaping' meant instead of 'forming'?

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

It is noted that the priority provisional applications are available, have been considered, and their submission is not necessary.

Any inquiry concerning this communication should be directed to examiner Hendrickson at telephone number (571) 272-1351.

A handwritten signature in black ink, appearing to read 'Stuart Hendrickson', is positioned above the printed name.

Stuart Hendrickson
examiner Art Unit 1754